

# CONTROL DEVICE OF AN ELECTRIC SKATEBOARD

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

5       The invention relates to a control device of an electric skateboard, and more particularly, to a control device in the form of a glove having a microprocessor to control an motor of the electric skateboard in manner of radio transmission with the result that the motor can be arbitrarily and conveniently started or stopped during an exercise session so as to greatly enhance the operating fun.

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### 2. Description of the Related Art

Operators of conventional skateboards normally have to take much time and energies to be in command of body balance and control skills of the forward movement thereof. Strictly to say, the skateboard is not a low skill exercise  
15 apparatus. In view of this point, many people won't disagree it.

Due to the difficult control of the skateboards, particularly for the beginners, a so-called electric skateboard has been developed. As implied by the name, the skateboard utilizes an electric motor to drive the wheels for producing the forward movement. Therefore, the operators only have to take care of his body balance on  
20 the skateboard so that the operating skill can be more readily obtained, and this product has found a wide use by younger people in recent years.

Indeed, this kind of electric skateboard is an excellent product for the beginners. However, this will be soon disfavored when they have got acquainted

with the balance skill of the electric skateboard. The reason for that lies in that the electric skateboard only has steady and preset speed. In addition to the restriction of speed adjustment for different conditions, the conventional skateboard can't be arbitrarily stopped or started during the exercise session, thus leading to  
5 inconveniences in practice or even causing unexpected accidents.

## SUMMARY OF THE INVENTION

It is a primary object of the present invention to provide a control device for an electric skateboard, and more particularly, to a control device having a control  
10 glove with a signal-sending unit so that the operator can arbitrarily start or stop the motor during an exercise session so as to greatly facilitate the operation and enhance the operating fun.

## BRIEF DESCRIPTION OF THE DRAWINGS

15 The accomplishment of this and other objects of the invention will become apparent from the following description and its accompanying drawings of which:

FIG. 1 is a perspective view of the electric skateboard in accordance with the invention;

FIG. 2 is a perspective view of the rear side of the control glove in accordance  
20 with the invention, wherein different components are illustrated;

FIG. 3 is a perspective view of the front side of the control glove in accordance with the invention, wherein the middle finger of the operator is stretched out to separate both magnetically permeable pieces from each other; and

FIG. 4 is a perspective view of the front side of the control glove in accordance with the invention, wherein the middle finger of the operator is bent inwardly to bring both magnetically permeable pieces in contact with each other.

## 5 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

First of all, referring to FIGS. 1 and 2, an exercise device in conjunction with a preferred embodiment of the present invention is composed of an electric skateboard 10 and a control glove 20.

The electric skateboard 10 includes a deck 11 having front and rear wheels 12, 10 13, a control unit 14, a motor 15 and a motor transmission mechanism 16 (which can be realized as a reduction gearbox) at the bottom of the deck 11. The control unit 14 contains a rechargeable battery (not shown), a microprocessor (not shown) and a signal-receiving unit (not shown). The operation of the motor 15 is controllable by a circuit (not shown) of the microprocessor. When the motor 15 is 15 actuated, the motor transmission mechanism 16 is driven for rotating the front wheels 12 so as to provide the forward movement for the electric skateboard 10. One side of the control unit 14 is fitted with a charging jack 141, a power switch 142 and a power indicator 143.

The control glove 20 can be worn onto the operator's hand 30. The control 20 glove 20 includes a control center 21 in the corresponding position of the back of the hand 30. The control center 21 has a microprocessor (not shown), a signal-sending unit (not shown) and batteries (not shown). A power switch 22, a speed-adjusting knob 23 and a power indicator 24 are positioned on the top of the control center 21. As shown in FIG. 3, a magnetically permeable central piece 25

is located at a corresponding place of the control glove 20 to the palm. This permeable piece 25 is used in conjunction with a magnetically permeable upper piece 26 for creating an electromagnetic induction when in contact with each other. The permeable upper piece 26 is in connection with the control center 21. As depicted in FIG. 4, a command signal can be sent by the signal-sending unit when the middle finger of the operator is bent for bringing the upper piece 26 in contact with the central piece 25.

Based upon the above-mentioned, the use of the invention is described as follows. The operator wears the control glove 20 onto his hand 30 first, and then turns on the power switches 142, 22 of the electric skateboard 10 and the control glove 20, respectively. At this time, the signal-receiving unit is in stand-by mode. When the operator bends his middle finger to bring the upper piece 26 in touch with the central piece 25 for producing an electromagnetic induction effect, the signal-sending unit within the control center 21 continuously sends specific signals received by the signal-receiving unit on the electric skateboard 10. After the signal-receiving unit receives the signals, they will be processed by the microprocessor for driving the motor to operate at a preset speed. Thus, the electric skateboard 10 is brought into forward movement.

The above-mentioned speed can be preset by the adjusting knob 23 on the control glove 20. A scale calibrated in rotational speed is laid of around the adjusting knob 23. The speed to be chosen can be identified and executed by built-in programs within the microprocessor. Accordingly, the operator can easily choose a desired speed for practice, thereby facilitating the operation of the electric skateboard.

Moreover, when the operator stretches out his middle finger to remove the permeable upper piece 26 from the permeable central piece 25, a stop command is readily given to the microprocessor on the electric skateboard 10 for stopping the operation of the motor 15. At the same time, the front wheels 12 will gradually  
5 come to a stop for ensuring the safety in practice.

By the way, the inventor has to emphasize that the aforementioned signal-sending and receiving units are whatever the radio transmission technique (for example infrared, radar wave transmission techniques or even bluetooth technique) is utilized. These techniques have been widely applied to the prior art  
10 so that no further descriptions are given hereinafter.

Many changes and modifications in the above-described embodiment of the invention can, of course, be carried out without departing from the scope thereof. Accordingly, to promote the progress in science and the useful arts, the invention is disclosed and is intended to be limited only by the scope of the appended claims.  
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